

### AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

- 1 1. (Currently Amended) A method of forwarding a packet comprising:  
2 ~~determining a logical grouping of a plurality of virtual private network tunnels based on a~~  
3 ~~classification criterion;~~  
4 classifying a received packet based on [[said]] at least one classification criterion  
5 associated with the packet; [[and]]  
6 selecting a logical group of virtual private network (VPN) tunnels from among plural  
7 logical groups of VPN tunnels according to a result of the classifying; and  
8 ~~based on a result of said classifying;~~ using a selection algorithm associated with said  
9 selected logical grouping to determine group of VPN tunnels to select one of said ~~plurality of~~  
10 ~~virtual private network~~ VPN tunnels in the selected logical group on which to forward said  
11 packet.
- 1 2. (Original) The method of claim 1 wherein said selection algorithm is a table look-up  
2 algorithm.
- 1 3. (Original) The method of claim 1 wherein said classifying said received packet  
2 comprises inspecting contents of said received packet.
- 1 4. (Currently Amended) The method of claim 1 further comprising:  
2 further classifying the received packet based on further classification criterion associated  
3 with the received packet; and  
4 determining a logical sub-grouping of said ~~plurality of virtual private network tunnels~~  
5 VPN tunnels of the selected logical group based on [[a]] the further classification criterion  
6 classifying; and  
7 ~~further classifying said received packet based on said further classification criterion.~~
- 1 5. (Original) The method of claim 1 wherein said selection algorithm includes a traffic  
2 balancing algorithm.

1 6. (Currently Amended) The method of claim 1 wherein said ~~virtual private network~~ VPN  
2 tunnels are defined as Multi Protocol Label Switching label switched paths.

1 7. (Currently Amended) The method of claim 6 wherein said received packet [[has]]  
2 includes destination address and said selection algorithm involves determining a label for a  
3 network element having said destination address.

1 8. (Currently Amended) A router ~~operable to~~ comprising:  
2 a processor to:

3 ~~determine a logical grouping of a plurality of virtual private network tunnels~~  
4 ~~based on a classification criterion;~~

5 classify a received packet based on [[said]] at least one classification criterion  
6 associated with the packet; [[and]]

7 select a logical group of virtual private network (VPN) tunnels from among plural  
8 logical groups according to a result of the classifying; and

9 ~~based on a result of said classifying,~~ use a selection algorithm associated with said  
10 selected logical grouping to determine group of VPN tunnels to select one of said plurality of  
11 ~~virtual private network~~ VPN tunnels in the selected logical group on which to forward said  
12 packet.

1 9. (Currently Amended) A computer readable medium containing computer-executable  
2 instructions which, when performed by processor in a router, cause the processor to:  
3 ~~determine a logical grouping of a plurality of virtual private network tunnels based on a~~  
4 ~~classification criterion;~~  
5 classify a received packet based on [[said]] at least one classification criterion associated  
6 with the packet; [[and]]  
7 select a logical group of virtual private network (VPN) tunnels from among plural logical  
8 groups of VPN tunnels according to a result of the classifying; and  
9 ~~based on a result of said classifying,~~ use a selection algorithm associated with said  
10 selected logical grouping to determine group of VPN tunnels to select one of said plurality of  
11 ~~virtual private network~~ VPN tunnels in the selected logical group on which to forward said  
12 packet.

1 10. – 13. (Cancelled)

1 14. (New) The method of claim 1, wherein selecting the logical group from among the plural  
2 logical groups comprises accessing a first table that associates classification criteria with plural  
3 logical groups of VPN tunnels.

1 15. (New) The method of claim 14, further comprising:  
2 associating plural routing and forwarding tables with the corresponding plural logical  
3 groups; and  
4 accessing the routing and forwarding table associated with the selected logical group to  
5 retrieve a first label usable by a next hop provider edge router to identify a destination of the  
6 packet.

1 16. (New) The method of claim 15, further comprising:  
2 accessing a second table associated with the selected logical group; and  
3 using an address of the next hop provider edge router as a lookup key into the second  
4 table to identify a provider backbone network router to route the packet, and to identify a second  
5 label usable by the provider backbone network router to identify the next hop provider edge  
6 router.

1 17. (New) The method of claim 16, further comprising:  
2 pushing the first label and second label onto a label stack of the packet; and  
3 forwarding the packet with the label stack to the provider backbone network router.

1 18. (New) The method of claim 17, wherein pushing the first and second labels onto the  
2 label stack comprises pushing the first and second labels onto a Multi-Protocol Label Switching  
3 (MPLS) stack.

1 19. (New) The router of claim 8, wherein the processor is operable to further:  
2 select the logical group from among the plural logical groups by accessing a first table  
3 that associates classification criteria with plural logical groups of VPN tunnels.

1 20. (New) The router of claim 19, wherein the processor is operable to further:  
2 associate plural routing and forwarding tables with the corresponding plural logical  
3 groups; and  
4 access the routing and forwarding table associated with the selected logical group to  
5 retrieve a first label usable by a next hop provider edge router to identify a destination of the  
6 packet.

1     21.     (New) The router of claim 20, wherein the processor is operable to further:  
2             access a second table associated with the selected logical group; and  
3             use an address of the next hop provider edge router as a lookup key into the second table  
4     to identify a provider backbone network router to route the packet, and to identify a second label  
5     usable by the provider backbone network router to identify the next hop provider edge router.

1     22.     (New) The router of claim 21, wherein the processor is operable to further:  
2             push the first label and second label onto a label stack of the packet; and  
3             forward the packet with the label stack to the provider backbone network router.

1     23.     (New) The computer-readable medium of claim 9, wherein selecting the logical group  
2     from among the plural logical groups comprises accessing a first table that associates  
3     classification criteria with plural logical groups of VPN tunnels.

1     24.     (New) The computer-readable medium of claim 23, wherein the instructions when  
2     executed cause the processor to further:  
3             associate plural routing and forwarding tables with the corresponding plural logical  
4     groups; and  
5             access the routing and forwarding table associated with the selected logical group to  
6     retrieve a first label usable by a next hop provider edge router to identify a destination of the  
7     packet.

1     25.     (New) The computer-readable medium of claim 24, wherein the instructions when  
2     executed cause the processor to further:  
3             access a second table associated with the selected logical group; and  
4             use an address of the next hop provider edge router as a lookup key into the second table  
5     to identify a provider backbone network router to route the packet, and to identify a second label  
6     usable by the provider backbone network router to identify the next hop provider edge router.

- 1 26. (New) The computer-readable medium of claim 25, wherein the instructions when
- 2 executed cause the processor to further:
- 3       push the first label and second label onto a label stack of the packet; and
- 4       forward the packet with the label stack to the provider backbone network router.